SAMSUNG

User Manual

S24C230BL
S24C230JL
S24C230JY
S27C230B
S27C230J

The color and the appearance may differ depending on the product, and the specifications are subject to change without prior notice to improve the performance.

BN46-00314A-02

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Copyright

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Icons used in this manual

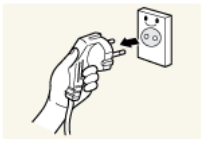
	The following images are for reference only. Real-life situations may differ from what is shown in the images.

Cleaning

Cleaning

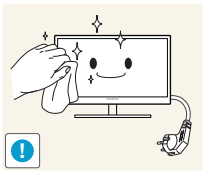
Exercise care when cleaning as the panel and exterior of advanced LCDs are easily scratched.

Take the following steps when cleaning.



1. Power off the monitor and computer.
2. Disconnect the power cord from the monitor.

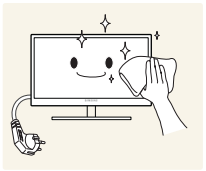
Hold the power cable by the plug and do not touch the cable with wet hands. Otherwise, an electric shock may result.



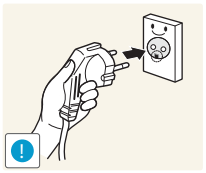
3. Wipe the monitor screen using a clean, soft and dry cloth.

- Do not apply a cleaning agent that contains alcohol, solvent, or surfactant to the monitor.

- Do not spray water or detergent directly on the product.



4. Wet a soft and dry cloth in water and wring thoroughly to clean the exterior of the monitor.



5. Connect the power cord to the product after cleaning the product.
6. Power on the monitor and computer.

Precautions for Storage

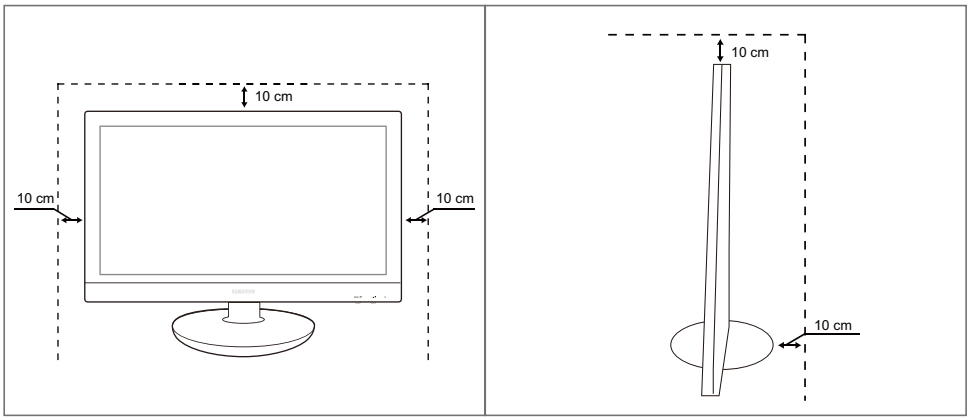
Using an ultrasonic humidifier may cause white stains on a highly glossy product.

Be sure you contact the nearest service center (paid service) for cleaning the inside of the monitor.

Securing the Installation Space

- Ensure some space around the product for ventilation. An internal temperature rise may cause fire and damage the product. Be sure to allow the amount of space as shown below or greater when installing the product.

The exterior may differ depending on the product.



Precautions for storage

Be sure to contact Samsung Customer Service Center (page 67) if the inside of the monitor needs cleaning. (A service fee will be charged.)

Safety Precautions

Caution
RISK OF ELECTRIC SHOCK DO NOT OPEN
Caution: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). THERE ARE NO USER SERVICEABLE PARTS INSIDE. REFER ALL SERVICING TO QUALIFIED PERSONNEL.

	This symbol indicates that high voltage is present inside. It is dangerous to make any kind of contact with any internal part of this product.
	This symbol alerts you that important literature concerning operation and maintenance has been included with this product.

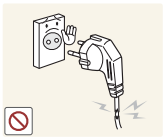
Symbols

Warning	A serious or fatal injury may result if instructions are not followed.
Caution	Personal injury or damage to properties may result if instructions are not followed.
	Activities marked by this symbol are prohibited.
	Instructions marked by this symbol must be followed.

Electricity and Safety

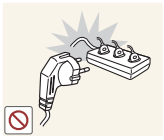
The following images are for reference only. Real-life situations may differ from what is shown in the images.

Warning



Do not use a damaged power cord or plug, or a loose power socket.

- An electric shock or fire may result.

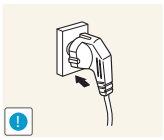


Do not plug many products into the same power socket.

- Otherwise, the socket may overheat and cause a fire.

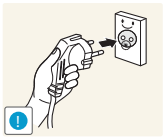
Do not touch the power plug with wet hands.

- Otherwise, an electric shock may result.



Insert the power plug all the way in so it is not loose.

- An unstable connection may cause a fire.



Ensure you connect the power plug to a grounded power socket. (type 1 insulated devices only).

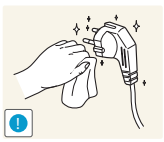
- An electric shock or injury may result.

Do not bend or pull the power cord with force. Do not weigh the power cord down with a heavy object.

- A damaged power cord may cause an electric shock or fire.

Do not place the power cord or product near heat sources.

- An electric shock or fire may result.



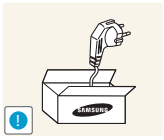
Remove foreign substances such as dust around the plug pins and power socket with a dry cloth.

- Otherwise, a fire may result.

Caution

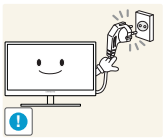
Do not unplug the power cord when the product is in use.

- The product may become damaged by an electric shock.



Do not use the power cord for products other than authorized products supplied by Samsung.

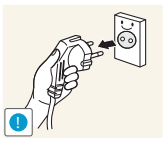
- An electric shock or fire may result.



Keep the power socket where the power cord is connected unobstructed.

- If any problem occurs in the product, unplug the power cable to completely cut the power to the product.

  Power to the product cannot be completely cut off with the power button.



Hold the plug when disconnecting the power cord from the power socket.

- An electric shock or fire may result.

Installation and Safety

Warning

DO NOT PLACE CANDLES, INSECT REPELLANTS OR CIGARETTES ON TOP OF THE PRODUCT. DO NOT INSTALL THE PRODUCT NEAR HEAT SOURCES.

- Otherwise, a fire may result.

Avoid installing the product in a narrow space with bad ventilation, such as a bookshelf or wall closet.

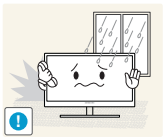
- Otherwise, a fire may result due to an increased internal temperature.

Keep the plastic packaging bag for the product in a place that cannot be reached by children.

- Children may suffocate.

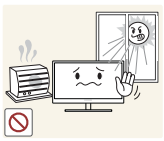
Do not install the product on an unstable or vibrating surface (insecure shelf, sloped surface, etc.).

- The product may fall and break or cause a personal injury.
- Using the product in an area with excess vibration may damage the product or cause a fire.



Do not install the product in a vehicle or a place exposed to dust, moisture (water drips, etc.), oil, or smoke.

- An electric shock or fire may result.



Do not expose the product to direct sunlight, heat, or a hot object such as a stove.

- Otherwise, the product lifespan may be reduced, or a fire may result.

Do not install the product within the reach of young children.

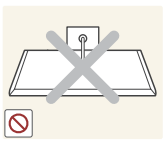
- The product may fall and injure children.

Edible oil, such as soybean oil, can damage or deform the product. Do not install the product in a kitchen or near a kitchen counter.

Caution

Take care not to drop the product when moving it.

- Otherwise, product failure or personal injury may result.

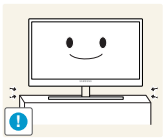


Do not set down the product on its front.

- The screen may become damaged.

When installing the product on a cabinet or shelf, make sure that the bottom edge of the front of the product is not protruding.

- The product may fall and break or cause a personal injury.
- Install the product only on cabinets or shelves of the right size.



Put down the product carefully.

- The product may fall and break or cause a personal injury.

Installing the product in an unusual place (a place exposed to a lot of fine particles, chemical substances or extreme temperatures, or an airport or train station where the product should operate continuously for an extended period of time) may seriously affect its performance.

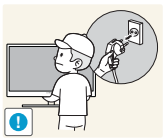
- Be sure to consult Samsung Customer Service Center (page 67) before installation if you want to install the product at such a place.

Operation and Safety

Warning

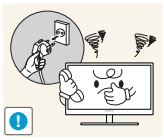
High voltage runs through the product. Do not attempt to disassemble, repair, or modify the product on your own.

- An electric shock or fire may result.
- Contact Samsung Customer Service Center (page 67) for repair.



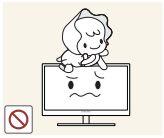
Before moving the product, turn off the power switch and disconnect the power cable and all other connected cables.

- Otherwise, the power cord may be damaged and a fire or electric shock may result.



If the product generates a strange noise, a burning smell, or smoke, remove the power cord immediately and contact Samsung Customer Service Center (page 67).

- An electric shock or fire may result.



Do not let children hang from the product or climb on top of it.

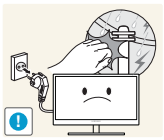
- The product may fall, and your child may become injured or seriously harmed.

If the product falls or the exterior is damaged, power off the product, remove the power cord, and contact Samsung Customer Service Center (page 67).

- Otherwise, an electric shock or fire may result.

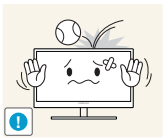
Do not put a heavy object, toy, or sweets on top of the product.

- The product or heavy objects may fall as children try to reach for the toy or sweets resulting in a serious injury.



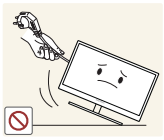
If there is a thunderstorm or lightning strike, turn off the power and disconnect the power cable.

- An electric shock or fire may result.



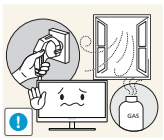
Do not drop objects on the product or apply impact.

- An electric shock or fire may result.



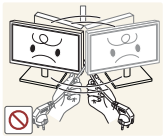
Do not move the product by pulling the power cord or any cable.

- Otherwise, the cable may be damaged and product failure, an electric shock or fire may result.



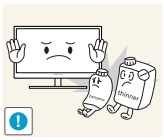
If a gas leakage is found, do not touch the product or power plug. Also, ventilate the area immediately.

- Sparks can cause an explosion or fire.



Do not lift or move the product by pulling the power cord or any cable.

- Otherwise, the cable may be damaged and product failure, an electric shock or fire may result.



Do not use or keep combustible spray or an inflammable substance near the product.

- An explosion or fire may result.

Ensure the vents are not blocked by tablecloths or curtains.

- Otherwise, a fire may result from an increased internal temperature.

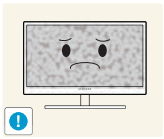
Do not insert a metallic object (a chopstick, coin, hair pin, etc.) or inflammable object (paper, match, etc.) into the vent or ports of the product.

- If water or any foreign substance enters the product, be sure to power off the product, remove the power cord, and contact Samsung Customer Service Center (page 67).
- Product failure, an electric shock or fire may result.

Do not place objects containing liquid (vases, pots, bottles, etc) or metallic objects on top of the product.

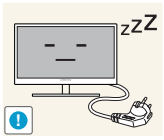
- If water or any foreign substance enters the product, be sure to power off the product, remove the power cord, and contact Samsung Customer Service Center (page 67).
- Product failure, an electric shock or fire may result.

Caution



Leaving the screen fixed on a stationary image for an extended period of time may cause afterimage burn-in or defective pixels.

- If you are not going to use the product for an extended period of time, activate power-saving mode or a moving-picture screen saver.

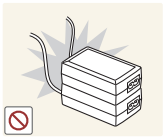


Disconnect the power cord from the power socket if you do not plan on using the product for an extended period of time (vacation, etc.).

- Otherwise, a fire may result from accumulated dust, overheating, an electric shock, or electric leakage.

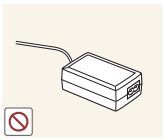
Use the product at the recommended resolution and frequency.

- Otherwise,Your eyesight may deteriorate.



Do not put DC power adapters together.

- Otherwise, a fire may result.



Remove the plastic bag from the DC power adapter before you use it.

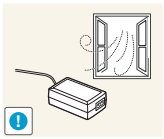
- Otherwise, a fire may result.

Do not let water enter the DC power device or get the device wet.

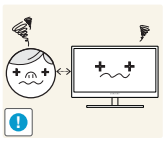
- An electric shock or fire may result.
- Avoid using the product outdoors where it can be exposed to rain or snow.
- Be careful not to get the DC power adapter wet when you wash the floor.

Do not put the DC power adapter near to any heating apparatus.

- Otherwise, a fire may result.



Keep the DC power adapter in a well-ventilated area.



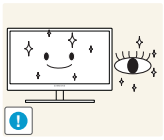
Looking at the screen too close for an extended period of time can deteriorate your eyesight.

Do not hold the monitor upside-down or move it by holding the stand.

- The product may fall and break or cause a personal injury.

Do not use humidifiers or stoves around the product.

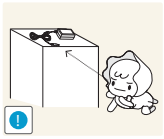
- An electric shock or fire may result.



Rest your eyes for more than 5 minutes for every 1 hour of product use.

- Eye fatigue will be relieved.

Do not touch the screen when the product has been turned on for an extended period of time as it will become hot.



Store the small accessories used with the product out of reach of children.

Exercise caution when adjusting the product angle or stand height.

- Otherwise, children's fingers or hands may become stuck and injured.
- Tilting the product excessively may cause it to fall and result in personal injury.

Do not place heavy objects on the product.

- Product failure or personal injure may result.

Correct posture to use the product

Use the product in the correct posture as follows:

- Straighten your back.
- Allow a distance of 45 to 50cm between your eye and the screen, and look slightly downward at the screen.

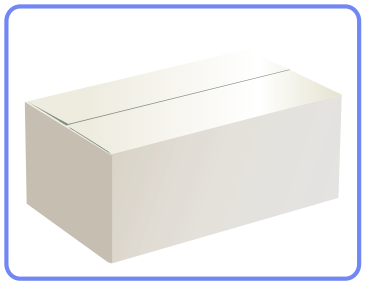
  Keep your eyes directly in front of the screen.
- Adjust the angle so light does not reflect on the screen.
- Keep your forearms perpendicular to your upper arms and level with the back of your hands.
- Keep your elbows at about a right angle.
- Adjust the height of the product so you can keep your knees bent at 90 degrees or more, your heels attached to the floor, and your arms lower than your heart.

1 Preparations

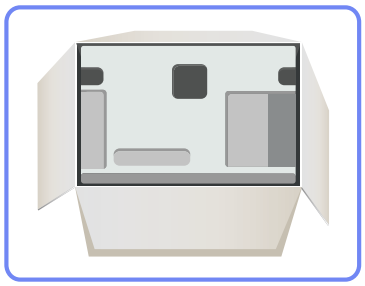
1.1 Checking the Contents

1.1.1 Removing the Packaging

1 Open the packaging box. Be careful not to damage the product when you open the packaging with a sharp instrument.

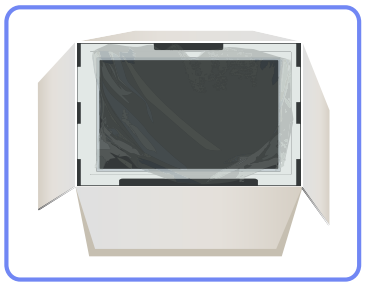


2 Remove the styrofoam from the product.



3 Check the components and remove the styrofoam and plastic bag.

This image is for reference only.

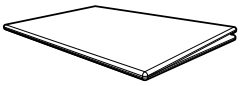


4 Store the box in a dry area so that it can be used when moving the product in the future.

1.1.2 Checking the Components

- Contact the dealer from whom you purchased the product if any item is missing.
- The appearance of the components and items sold separately may differ from the image shown.

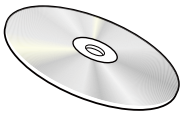
Components - S24C230BL, S27C230B



Quick setup guide

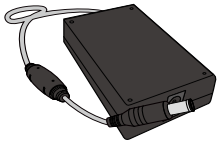
Warranty card

(Not available in some locations)

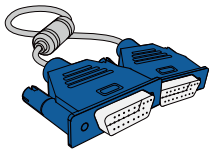


User manual

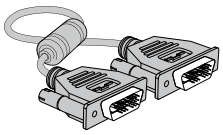
Power cable



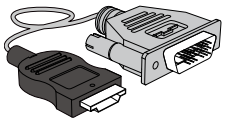
DC power adapter



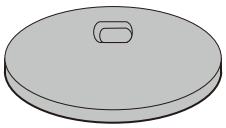
D-SUB cable (optional)



DVI cable (optional)

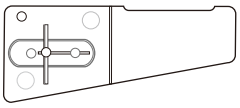


HDMI-DVI cable (optional)



Stand

Stand Connector

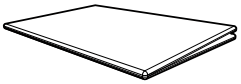


headphone holder (optional)

screws (optional)

Components may vary depending on the country.

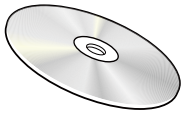
Components - S24C230JL, S24C230JY, S27C230J



Quick setup guide

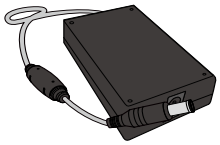
Warranty card

(Not available in some locations)

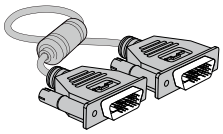


User manual

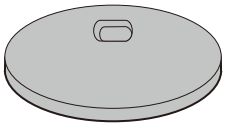
Power cable



DC power adapter

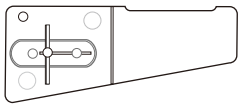


DVI cable (optional)



Stand

Stand Connector



headphone holder (optional)

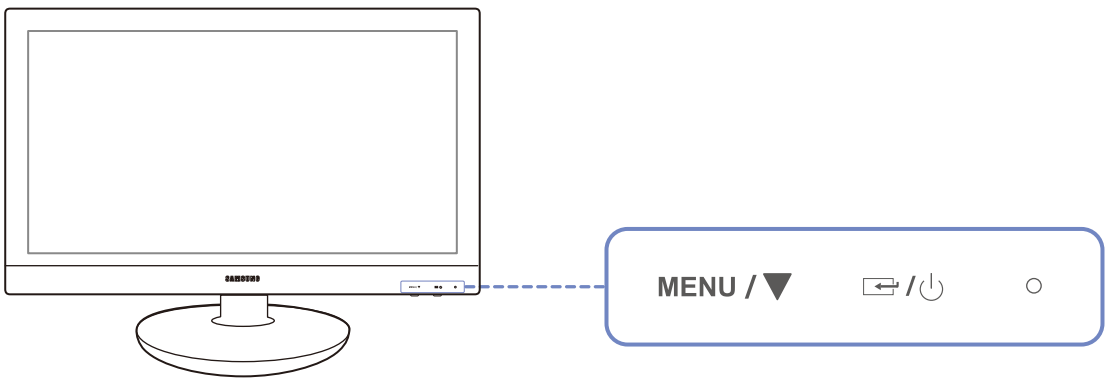
screws (optional)

Components may vary depending on the country.

1.2 Parts

1.2.1 Frontal Buttons

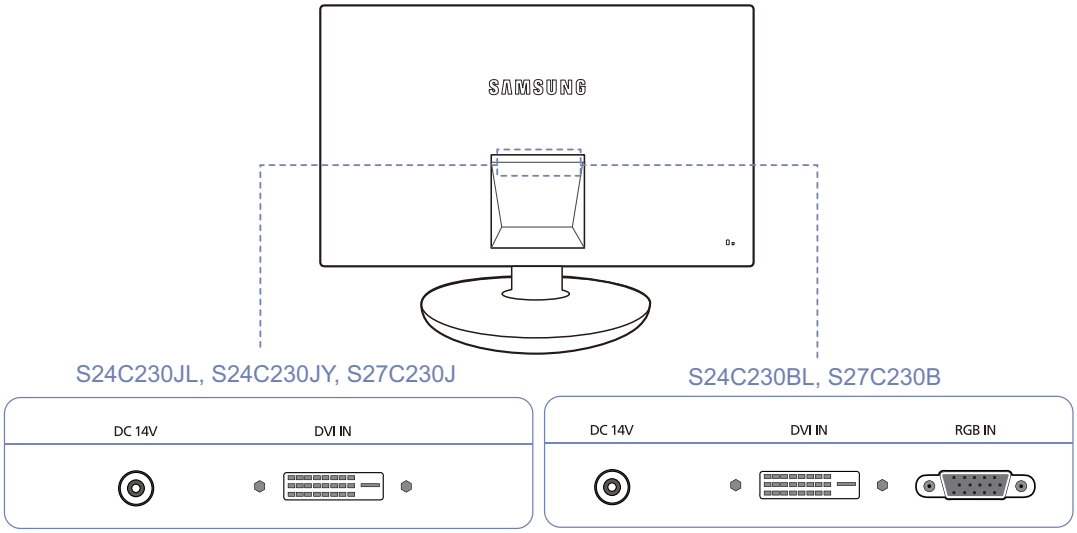
The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.



Icons	Description
MENU/▼	• Press this button to display the On Screen Display (OSD). • When in the menu, press this button to move down to the option below, or adjust values in the OSD. • OSD control lock: Maintain the current settings, or lock the OSD control to prevent unintended changes to settings. Enable: To lock the OSD control, press and hold the [MENU/▼] button for 10 seconds. Disable: To unlock the OSD control, press and hold the [MENU/▼] button for more than 10 seconds. Even if the OSD Adjustment Lock function is activated, users can still use that function key to adjust the brightness,contrast and also can exit the OSD.
/⏻	• When OSD is not displayed, press this button to power on/off the product. • When OSD is displayed, press this button to access sub OSD, or activate the OSD menu.
○ (Power LED)	This LED is turned on when the product works normally. To reduce power consumption, it is best to remove the power cable when you will not be using the product for an extended period of time.

1.2.2 Reverse Side

The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.

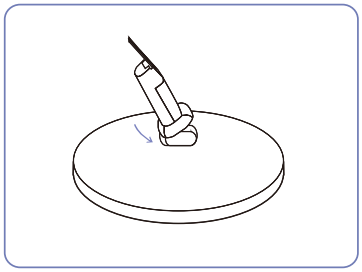


Port	About ports
DC 14V	Connects to the DC power adapter.
DVI IN	Connect to a source device using an DVI cable.
RGB IN	Connect to a PC using the D-SUB cable.

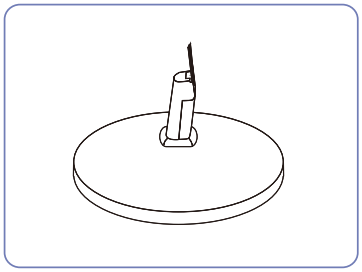
1.3 Installation

1.3.1 Attaching the Stand

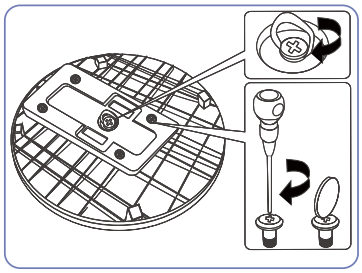
Before assembling the product, place the product down on a flat and stable surface so that the screen is facing downwards.



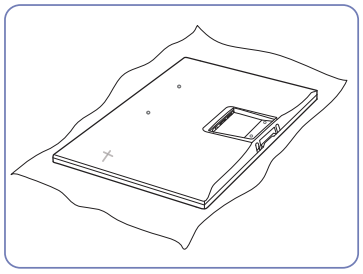
Insert the stand neck into the stand base in the direction shown in the figure.



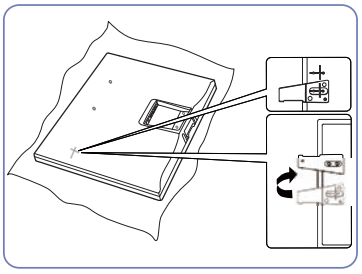
Check that the stand neck is firmly connected.



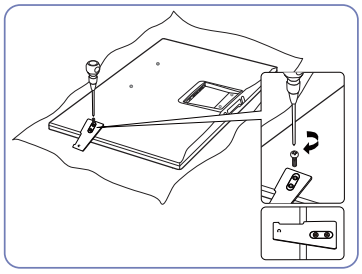
Tightly fasten the connecting screw at the bottom of the stand base.



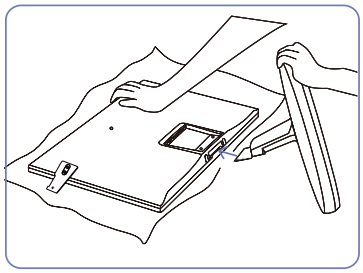
Place a soft cloth over the table to protect the product and place the product onto the cloth so that the front of the product is facing downwards.



Put the headphone holder in the place shown by figure.

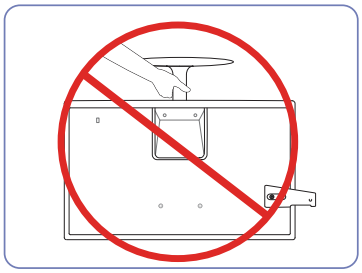


Turn the connecting screws fully so that it is completely fixed.



Hold the main body of the product with your hand as shown by the figure.

Push the assembled stand into the main body in the direction of the arrow as shown in the figure.



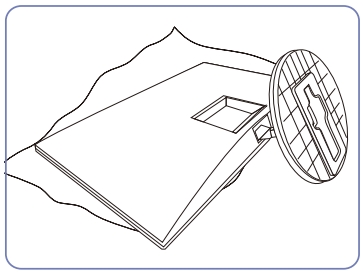
- Caution

Do not hold the product upside down only by the stand.

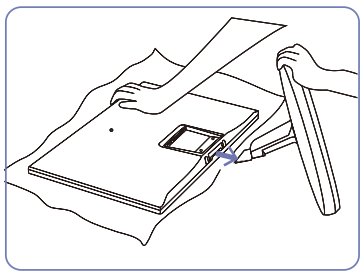
The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.

1.3.2 Removing the Stand

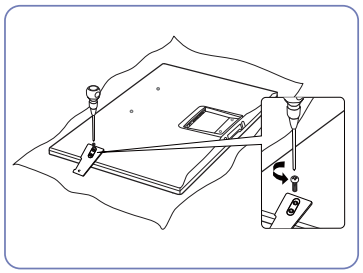
- Disassembly is the reverse order of assembly.
- The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.



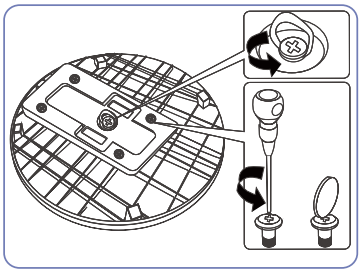
Place a soft cloth over the table to protect the product and place the product onto the cloth so that the front of the product faces downwards.



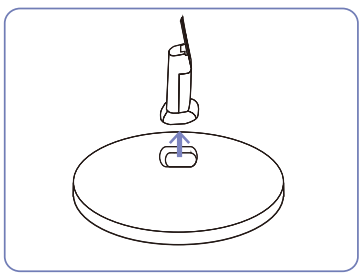
While holding the top of the monitor with one hand, grasp and detach the stand with the other hand.



Remove the headphone holder.



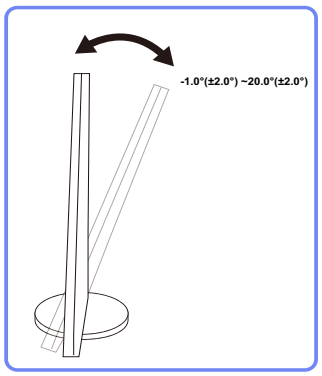
Turn the connecting screw at the bottom of the stand base to separate it.



Remove the stand neck from the stand base by pulling it in the direction of the arrow as shown in the figure.

1.3.3 Adjusting the Product Tilt and Height

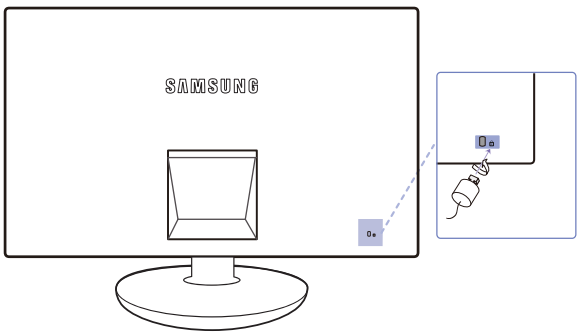
The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.



- You can adjust the tilt of your monitor.
- Hold the lower part of the product and adjust the tilt carefully.

1.3.4 Anti-theft Lock

An anti-theft lock allows you to use the product securely even in public places. The locking device shape and locking method depend on the manufacturer. Refer to the user guide provided with your anti-theft locking device for details. The lock device is sold separately.



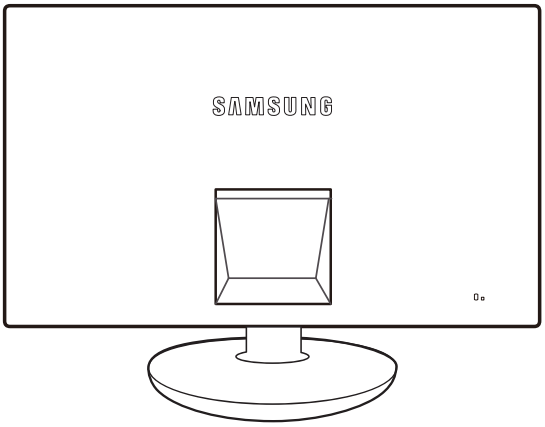
The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.

To lock an anti-theft locking device:

1. Fix the cable of your anti-theft locking device to a heavy object such as a desk.
2. Put one end of the cable through the loop on the other end.
3. Insert the locking device into the anti-theft lock slot at the back of the product.
4. Lock the locking device.

- An anti-theft locking device can be purchased separately.
- Refer to the user guide provided with your anti-theft locking device for details.
- Anti-theft locking devices can be purchased at electronics retailers or online.

2.1 Before Connecting

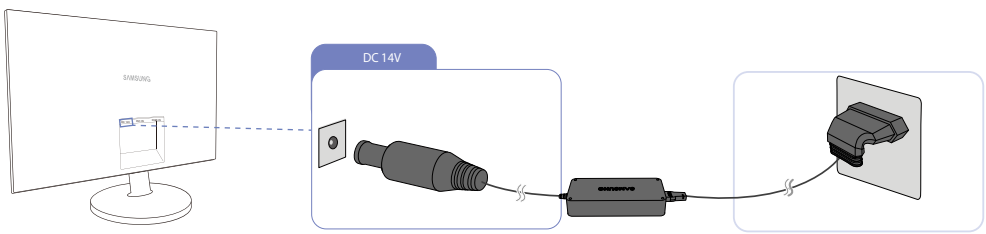


2.1.1 Pre-connection Checkpoints

- Before connecting a source device, read the user manual provided with it.
  The number and locations of ports on source devices may differ from device to device.
- Do not connect the power cable until all connections are completed.
  Connecting the power cable during connection may damage the product.
- Check the types of ports at the back of the product you want to connect.

2.2 Connecting the Power

- Connect the power adapter to [DC 14V] jack on the rear of the product. Connect the power cord to the adapter and wall socket. (The input voltage is switched automatically.)



2.3 Connecting and Using a PC

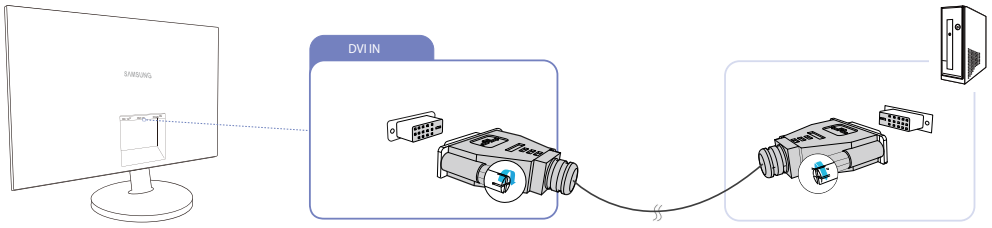
2.3.1 Connecting a Computer to S24C230BL and S27C230B.

- Select a connection method suitable for your PC.

Connecting parts may differ in different products.

Connection Using the DVI Cable

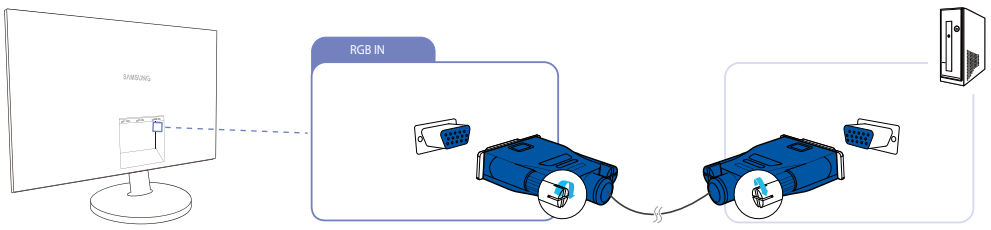
Do not connect the power cable before connecting all other cables. Ensure you connect a source device first before connecting the power cable.



1. Connect the DVI cable to the [DVI IN] port on the back of the product and the DVI port on the PC.
2. Connect the DC power adapter to the product and a power socket. Next, turn on the power switch on the PC. (For details, refer to "2.2 Connecting the Power".)
3. From the OSD menu, change the input source to **DVI**.
   (Refer to "3.9 Source" for further details on how to change the input source.)

Connection Using the D-SUB Cable (Analog Type)

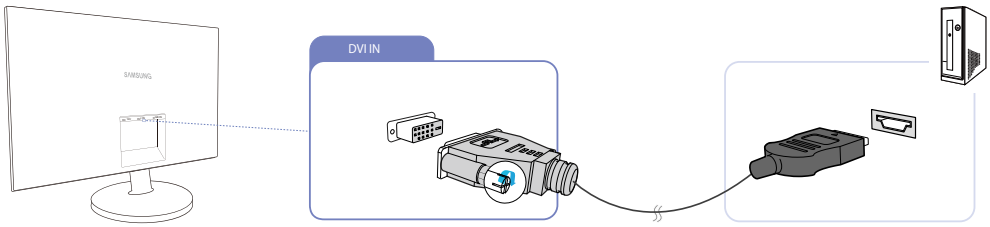
Do not connect the power cable before connecting all other cables. Ensure you connect a source device first before connecting the power cable.



1. Connect the D-SUB cable to the [RGB IN] port on the back of the product and the RGB port on the PC.
2. Connect the DC power adapter to the product and a power socket. Next, turn on the power switch on the PC. (For details, refer to "2.2 Connecting the Power".)
3. From the OSD menu, change the input source to **Analog**.
   (Refer to "3.9 Source" for further details on how to change the input source.)

Connection Using the HDMI-DVI Cable

Do not connect the power cable before connecting all other cables. Ensure you connect a source device first before connecting the power cable.



1. Connect the HDMI-DVI cable to the [DVI IN] port on the back of the product and the HDMI port on the PC.
2. Connect the DC power adapter to the product and a power socket. Next, turn on the power switch on the PC. (For details, refer to "2.2 Connecting the Power".)
3. From the OSD menu, change the input source to **DVI**.
(Refer to "3.9 Source" for further details on how to change the input source.)

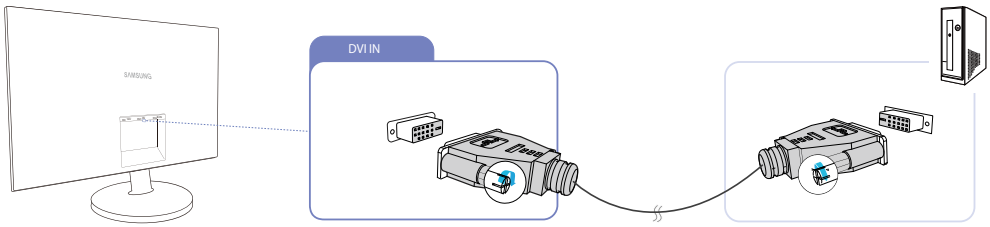
2.3.2 Connecting a Computer to S24C230JL, S24C230JY and S27C230J

- Select a connection method suitable for your PC.

Connecting parts may differ in different products.

Connection Using the DVI Cable

Do not connect the power cable before connecting all other cables. Ensure you connect a source device first before connecting the power cable.



1. Connect the DVI cable to the [DVI IN] port on the back of the product and the DVI port on the PC.
2. Connect the DC power adapter to the product and a power socket. Next, turn on the power switch on the PC. (For details, refer to "2.2 Connecting the Power".)

2.3.3 Driver Installation

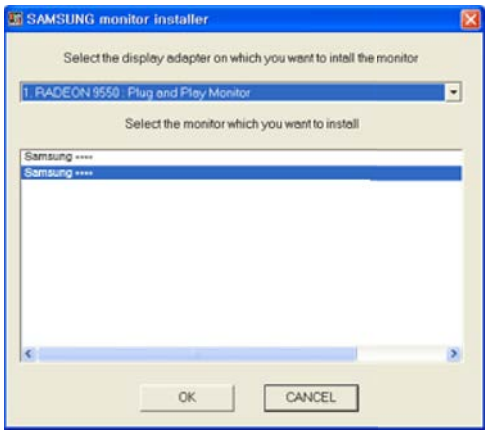
- You can set the optimum resolution and frequency for this product by installing the corresponding drivers.
- An installation driver is contained on the CD supplied with the product.
- If the file provided is faulty, visit the Samsung homepage (http://www.samsung.com/) and download the file.

1 Insert the user manual CD provided with the product into the CD-ROM drive.

2 Click "Windows Driver".

3 Follow the instructions given on the screen to proceed with installation.

4 Select your product model from the list of models.


SAMSUNG monitor installer
Select the display adapter on which you want to intall the monitor
1. RADEON 9550 : Plug and Play Monitor
Select the monitor which you want to install
Samsung ****
Samsung ****
OK
CANCEL

5 Go to Display Properties and check that the resolution and refresh rate are appropriate.

Refer to your Windows OS manual for further details.

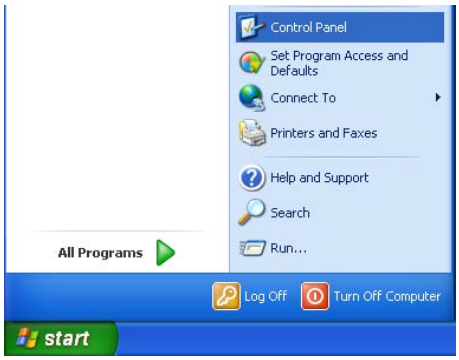
2.3.4 Changing the Resolution Using a PC

- Adjust the resolution and refresh rate in Control Panel on your PC to obtain optimum picture quality.
- The picture quality of TFT-LCDs may degrade if the optimum resolution is not selected.

Changing the Resolution on Windows XP

Go to **Control Panel** → **Display** → **Settings** and change the resolution.

1



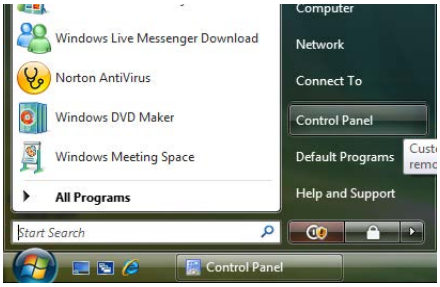
2

3

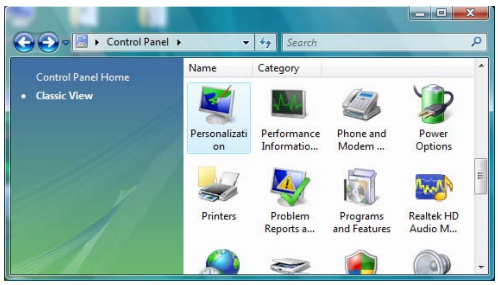
Changing the Resolution on Windows Vista

Go to **Control Panel** → **Personalization** → **Display Settings** and change the resolution.

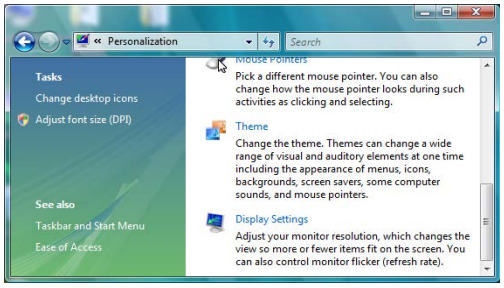
1



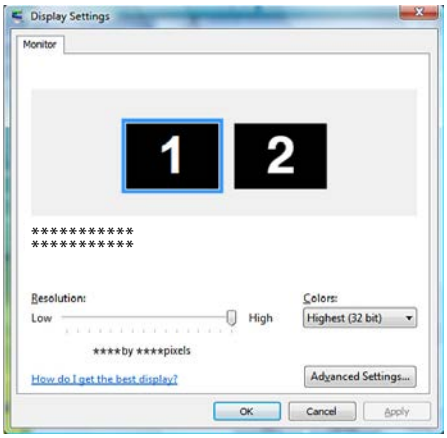
2



3


Personalization
Search
Tasks
Change desktop icons
Adjust font size (DPI)
See also
Taskbar and Start Menu
Ease of Access
Mouse Pointers
Pick a different mouse pointer. You can also change how the mouse pointer looks during such activities as clicking and selecting.
Theme
Change the theme. Themes can change a wide range of visual and auditory elements at one time including the appearance of menus, icons, backgrounds, screen savers, some computer sounds, and mouse pointers.
Display Settings
Adjust your monitor resolution, which changes the view so more or fewer items fit on the screen. You can also control monitor flicker (refresh rate).

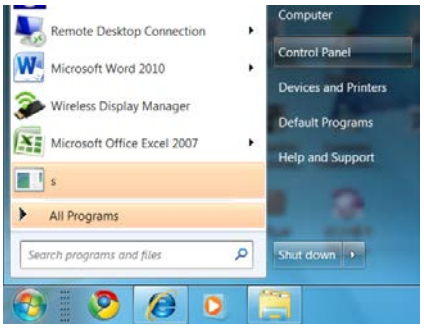
4



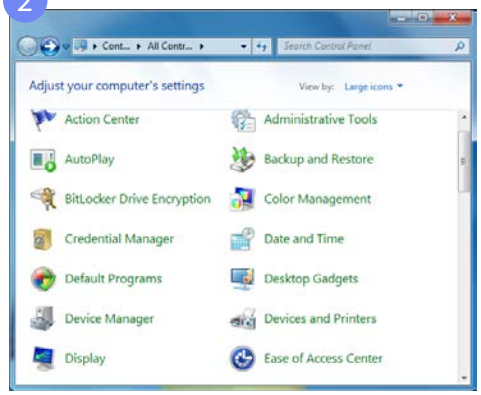
Changing the Resolution on Windows 7

Go to **Control Panel** → **Display** → **Screen Resolution** and change the resolution.

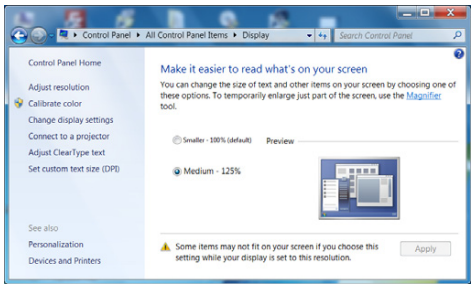
1



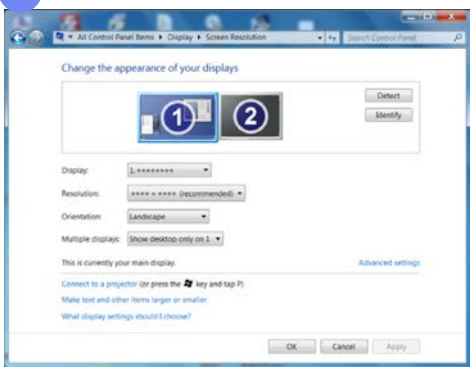
2



3


Control Panel Home
Adjust resolution
Calibrate color
Change display settings
Connect to a projector
Adjust ClearType text
Set custom text size (DPI)
Make it easier to read what's on your screen
Preview
Medium - 125%
Some items may not fit on your screen if you choose this setting while your display is set to this resolution.
Apply
See also
Personalization
Devices and Printers

4

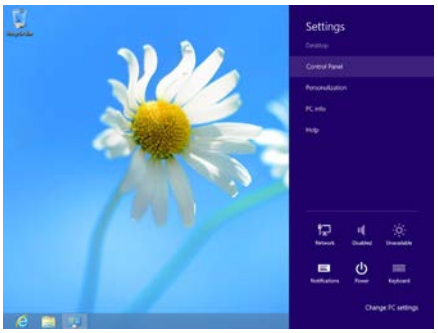


Changing the Resolution on Windows 8

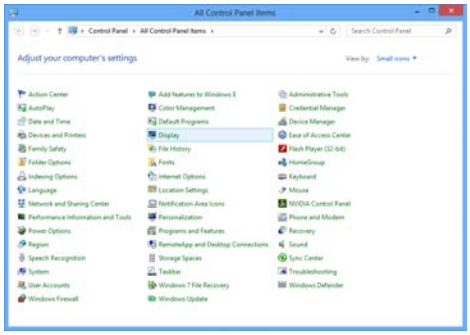
Go to **Settings** → **Control Panel** → **Display** → **Screen Resolution** and change the resolution.

1

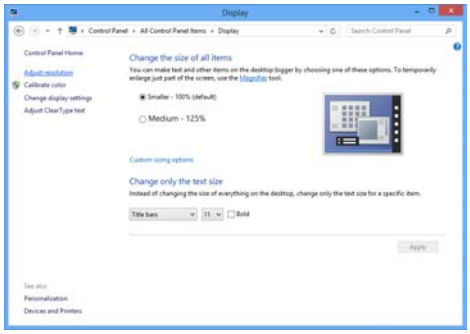
2



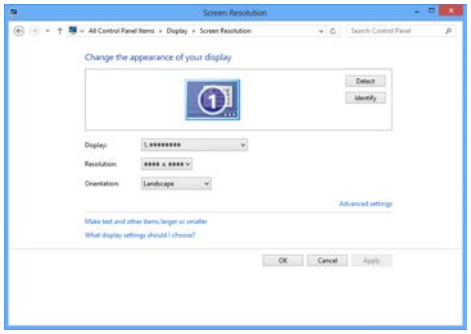
3



4



5



3 Using the OSD Menu on S24C230BL and S27C230B

3.1 SAMSUNG MAGIC Bright

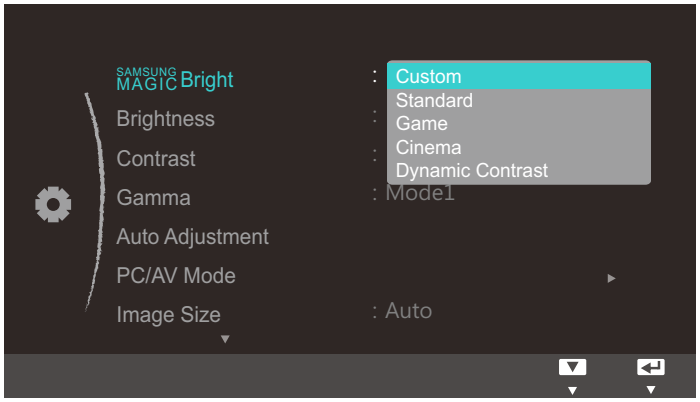
This menu provides an optimum picture quality suitable for the environment where the product will be used.

You can customize the brightness to suit your preferences.

3.1.1 Configuring SAMSUNG MAGIC Bright

1 Press [MENU/▼] on the product.

2 Press [▼] to move to SAMSUNG MAGIC Bright and press [⏎/⏻] on the product.
The following screen will appear.



- **Custom**: Customize the contrast and brightness as required.
- **Standard**: Obtain a picture quality suitable for editing documents or using Internet.
- **Game**: Obtain a picture quality suitable for playing games that involve many graphic effects and dynamic movements.
- **Cinema**: Obtain the brightness and sharpness of TVs suitable for enjoying video and DVD content.
- **Dynamic Contrast**: Obtain balanced brightness through automatic contrast adjustment.

3 Press [▼] to move to the option you want and press [⏎/⏻].

4 The selected option will be applied.

3.2 Brightness

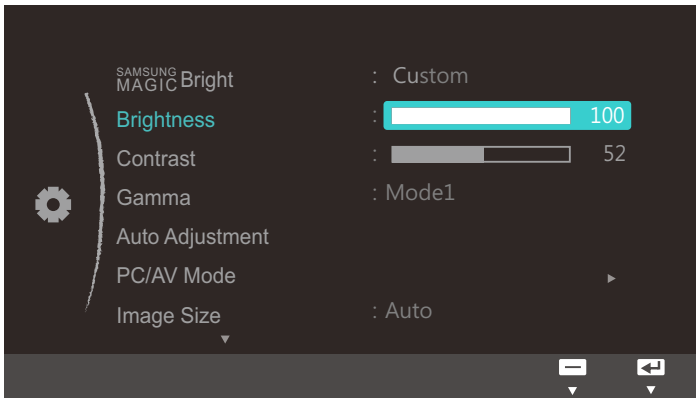
You can adjust the general brightness of the picture. (Range: 0~100)

A higher value will make the picture appear brighter.

This menu is not available when SAMSUNG MAGIC**Bright** is set to **Dynamic Contrast** mode.

3.2.1 Configuring Brightness

1. Press [**MENU/▼**] on the product.
2. Press [▼] to move to **Brightness** and press [⏎/⏻] on the product.
   The following screen will appear.



3. Adjust the **Brightness** using the [▼] buttons.

3.3 Contrast

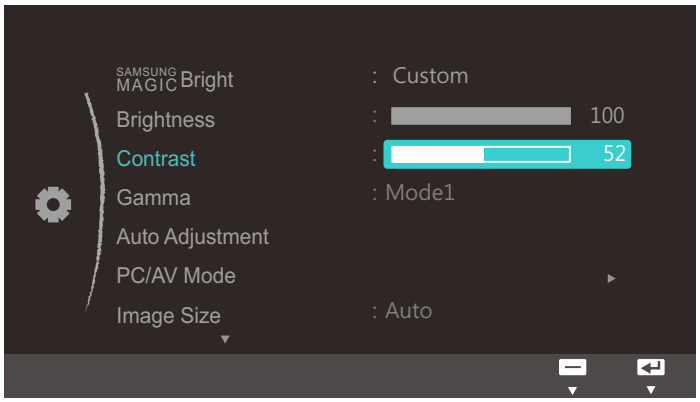
Adjust the contrast between the objects and background. (Range: 0~100)

A higher value will increase the contrast to make the object appear clearer.

This option is not available when SAMSUNG MAGIC**Bright** is in **Cinema** or **Dynamic Contrast** mode.

3.3.1 Configuring Contrast

1. Press [**MENU/▼**] on the product.
2. Press [▼] to move to **Contrast** and press [⏎/⏻] on the product.
   The following screen will appear.



3. Adjust the **Contrast** using the [▼] buttons.

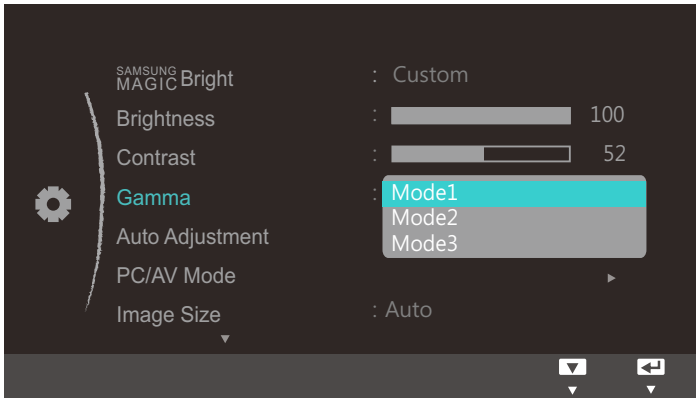
3.4 Gamma

Adjust the mid-range brightness (Gamma) of the picture.

This option is not available when SAMSUNG MAGIC**Bright** is in **Cinema** or **Dynamic Contrast** mode.

3.4.1 Configuring Gamma

1. Press [**MENU/▼**] on the product.
2. Press [▼] to move to **Gamma** and press [⏎/⏻] on the product.
   The following screen will appear.



3. Press [▼] to move to the option you want and press [⏎/⏻].
4. The selected option will be applied.

3 Using the OSD Menu on S24C230BL and S27C230B

3.5 Auto Adjustment

You can adjust the screen settings automatically.

This function is only available in **Analog** mode.

3.5.1 Using Auto Adjustment

1 Press [MENU/▼] on the product.

2 Press [▼] to move to **Auto Adjustment** and press [⏎/⏻] on the product.
The following screen will appear.

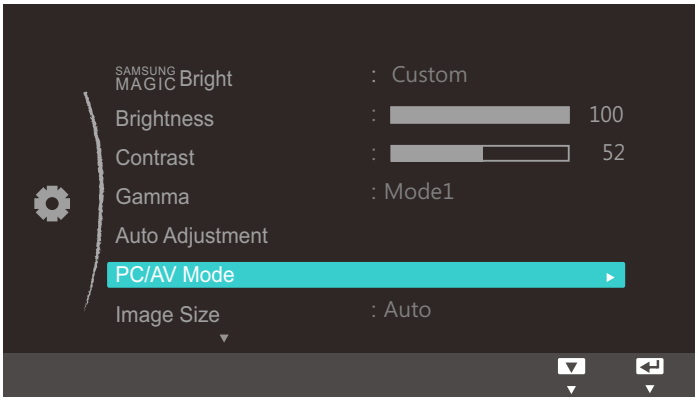
3.6 PC/AV Mode

Set **PC/AV Mode** to **AV**. The picture size will be enlarged. This option is useful when you view a movie.

- This function does not support **Analog** mode.
- Supplied for the wide models only such as 16:9 or 16:10.

3.6.1 Configuring PC/AV Mode

1. Press [MENU/▼] on the product.
2. Press [▼] to move to **PC/AV Mode** and press [⏻] on the product.
   The following screen will appear.



3. Press [▼] to move to the option you want and press [⏻].
4. The selected option will be applied.

3 Using the OSD Menu on S24C230BL and S27C230B

3.7 Image Size

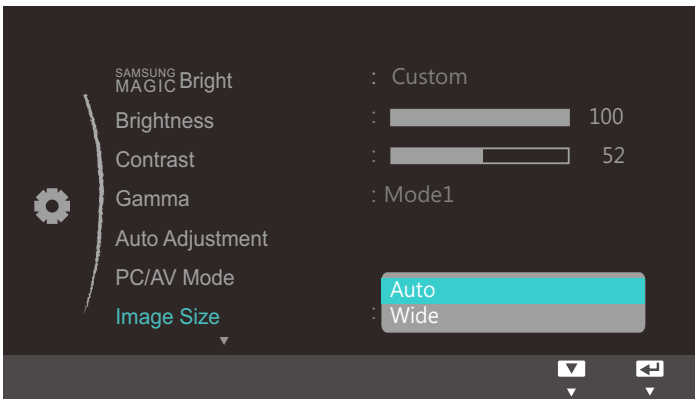
Change the picture size.

3.7.1 Changing the Image Size

1 Press [MENU/▼] on the product.

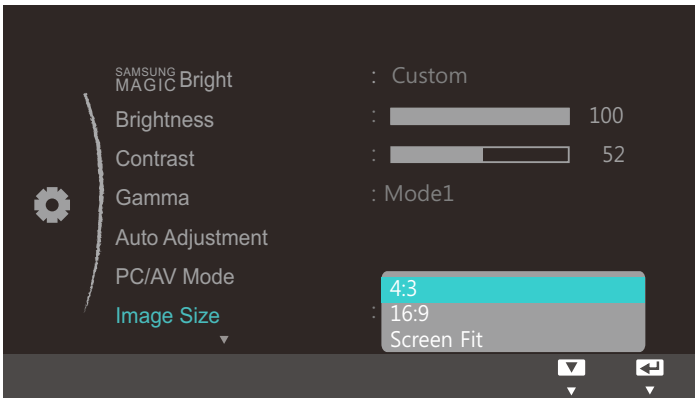
2 Press [▼] to move to **Image Size** and press [⏻] on the product. The following screen will appear.

In **PC** mode



- **Auto**: Display the picture according to the aspect ratio of the input source.
- **Wide**: Display the picture in full screen regardless of the aspect ratio of the input source.

In **AV** mode



- **4:3**: Display the picture with an aspect ratio of 4:3. Suitable for videos and standard broadcasts.
- **16:9**: Display the picture with an aspect ratio of 16:9.
- **Screen Fit**: Display the picture with the original aspect ratio without cutting off.

Changing the screen size is available when the following conditions are satisfied.

- A digital output device is connected using the DVI cable.

- The input signal is 480p, 576p, 720p, or 1080p and monitor can display normally (Not every model can support all of these signals).
- This can only be set when the external input is connected through DVI and **PC/AV Mode** is set to **AV**.

3 Press [▼] to move to the option you want and press [⏎/⏻].

4 The selected option will be applied.

3.8 Language

Set the menu language.

- A change to the language setting will only be applied to the onscreen menu display.
- It will not be applied to other functions on your PC.

3.8.1 Configuring Language

1 Press [MENU/▼] on the product.

2 Press [▼] to move to **Language** and press [⏻] on the product.

The following screen will appear.

3 Press [▼] to move to the language you want and press [⏻].

4 The selected option will be applied.

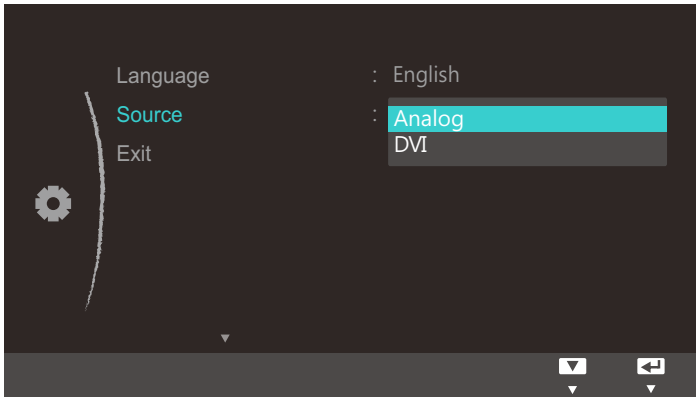
3.9 Source

Using this menu, you can change the input signal (Analog/DVI).

If the monitor is in power saving mode or is displaying the message **Check Signal Cable**, press [**MENU/▼**] to display the OSD.In this OSD press [⏻] and [**MENU/▼**] to change the input signal (**Analog**/**DVI**).

3.9.1 Configuring Souce

1. Press [**MENU/▼**] on the product.
2. Press [▼] to move to **Source** and press [⏻] on the product.
   The following screen will appear.



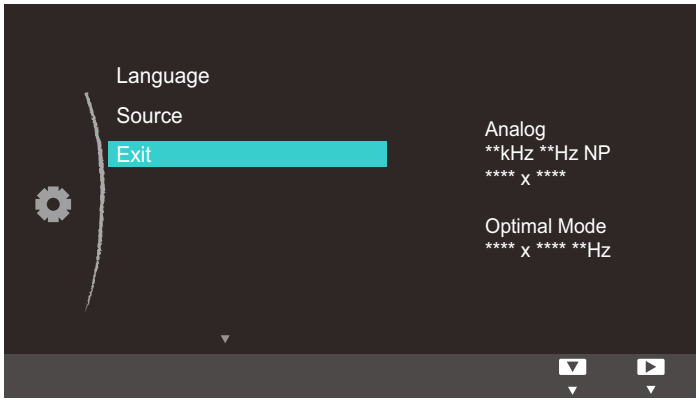
3. Press [▼] to move to the **Source** you want and press [⏻].
4. The selected option will be applied.

3 Using the OSD Menu on S24C230BL and S27C230B

3.10 Exit

You can exit the OSD.

View the current input source, frequency and resolution.



3.10.1 Viewing the Product Information

1 Press [MENU/▼] on the product.

2 Press [▼] to move to **Exit**.

The following screen will appear.

The displayed menu items may vary depending on the model.

3.10.2 Exiting from the OSD Menu

1 Press [MENU/▼] on the product.

2 Press [▼] to move to **Exit** and press [⏎/⏻] on the product.

3 This will close the OSD menu.

4 Using the OSD Menu on S24C230JL, S24C230JY and S27C230J

4.1 SAMSUNG MAGIC Bright

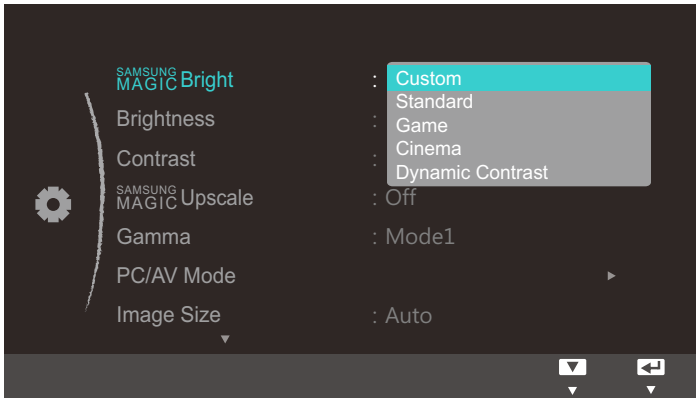
This menu provides an optimum picture quality suitable for the environment where the product will be used.

You can customize the brightness to suit your preferences.

4.1.1 Configuring SAMSUNG MAGIC Bright

1 Press [MENU/▼] on the product.

2 Press [▼] to move to SAMSUNG MAGIC Bright and press [⏎/⏻] on the product.
The following screen will appear.



- **Custom**: Customize the contrast and brightness as required.
- **Standard**: Obtain a picture quality suitable for editing documents or using Internet.
- **Game**: Obtain a picture quality suitable for playing games that involve many graphic effects and dynamic movements.
- **Cinema**: Obtain the brightness and sharpness of TVs suitable for enjoying video and DVD content.
- **Dynamic Contrast**: Obtain balanced brightness through automatic contrast adjustment.

3 Press [▼] to move to the option you want and press [⏎/⏻].

4 The selected option will be applied.

4 Using the OSD Menu on S24C230JL, S24C230JY and S27C230J

4.2 Brightness

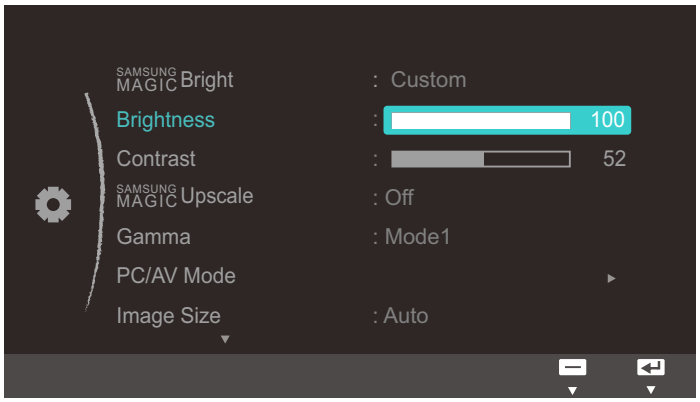
You can adjust the general brightness of the picture. (Range: 0~100)

A higher value will make the picture appear brighter.

This menu is not available when SAMSUNG MAGIC**Bright** is set to **Dynamic Contrast** mode.

4.2.1 Configuring Brightness

1. Press [**MENU/▼**] on the product.
2. Press [▼] to move to **Brightness** and press [⏎/⏻] on the product.
   The following screen will appear.



3. Adjust the **Brightness** using the [▼] buttons.

4 Using the OSD Menu on S24C230JL, S24C230JY and S27C230J

4.3 Contrast

Adjust the contrast between the objects and background. (Range: 0~100)

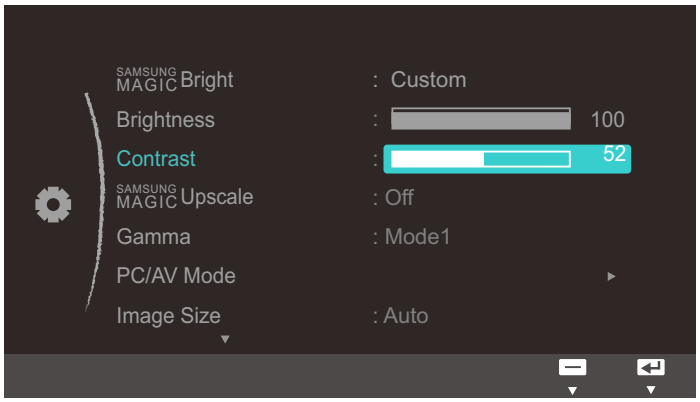
A higher value will increase the contrast to make the object appear clearer.

This option is not available when SAMSUNG MAGIC**Bright** is in **Cinema** or **Dynamic Contrast** mode.

4.3.1 Configuring Contrast

1 Press [**MENU/▼**] on the product.

2 Press [▼] to move to **Contrast** and press [⏎/⏻] on the product.
The following screen will appear.



3 Adjust the **Contrast** using the [▼] buttons.

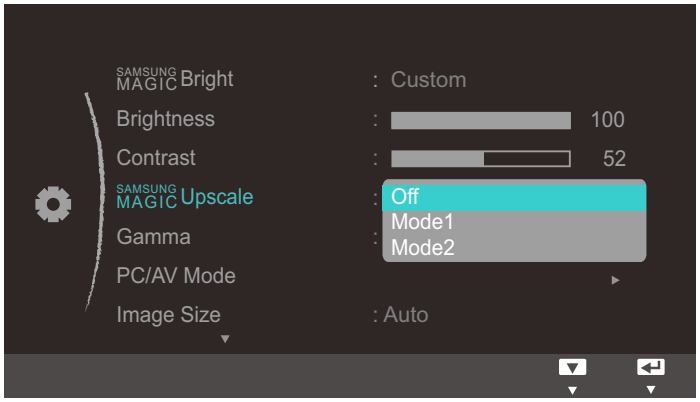
4.4 SAMSUNG MAGIC Upscale

SAMSUNG MAGIC**Upscale** function can enhance the layers of the picture details and the vividness of the picture.

The function has more obvious effects on low-resolution pictures.

4.4.1 Configuring SAMSUNG MAGIC Upscale

1. Press [**MENU**/▼] on the product.
2. Press [▼] to move to SAMSUNG MAGIC**Upscale** and press [⏎/⏻] on the product.
   The following screen will appear.



   Comparing with **Mode1**, **Mode2** has a stronger effect.
3. Press [▼] to move to the option you want and press [⏎/⏻].
4. The selected option will be applied.

4 Using the OSD Menu on S24C230JL, S24C230JY and S27C230J

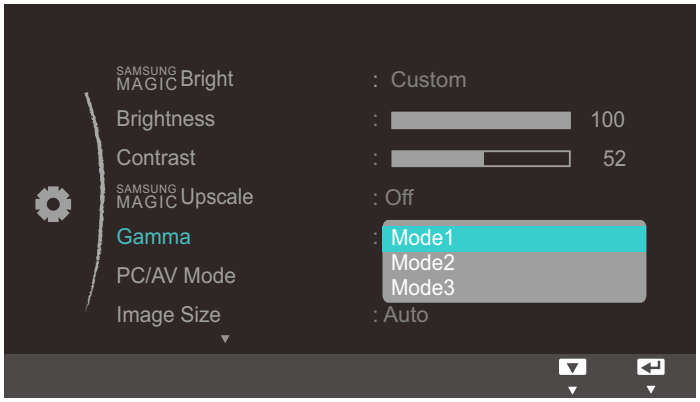
4.5 Gamma

Adjust the mid-range brightness (Gamma) of the picture.

This option is not available when SAMSUNG MAGIC**Bright** is in **Cinema** or **Dynamic Contrast** mode.

4.5.1 Configuring Gamma

1. Press [**MENU/▼**] on the product.
2. Press [▼] to move to **Gamma** and press [⏎/⏻] on the product.
   The following screen will appear.



3. Press [▼] to move to the option you want and press [⏎/⏻].
4. The selected option will be applied.

4 Using the OSD Menu on S24C230JL, S24C230JY and S27C230J

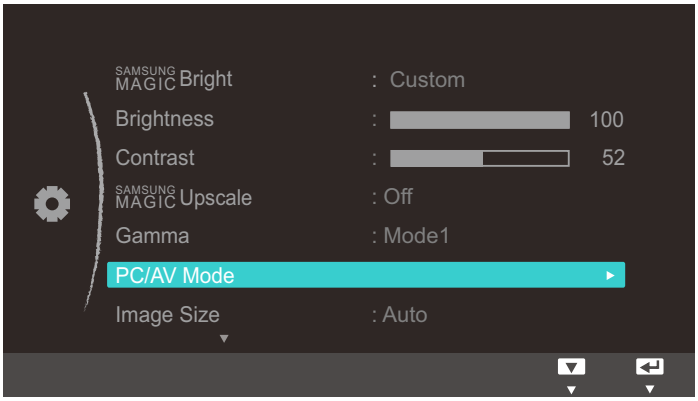
4.6 PC/AV Mode

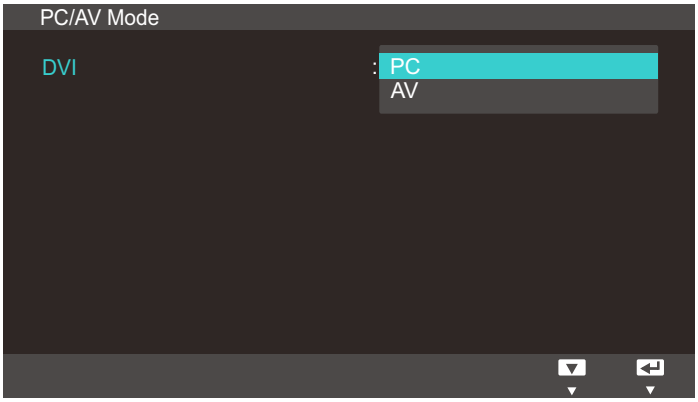
Set **PC/AV Mode** to **AV**. The picture size will be enlarged. This option is useful when you view a movie.

Supplied for the wide models only such as 16:9 or 16:10.

4.6.1 Configuring PC/AV Mode

1. Press [MENU/▼] on the product.
2. Press [▼] to move to **PC/AV Mode** and press [⏎/⏻] on the product.
   The following screen will appear.





3. Press [▼] to move to the option you want and press [⏎/⏻].
4. The selected option will be applied.

4 Using the OSD Menu on S24C230JL, S24C230JY and S27C230J

4.7 Image Size

Change the picture size.

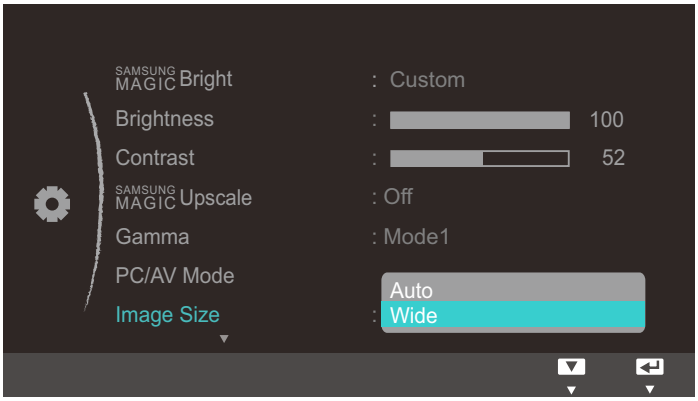
4.7.1 Changing the Image Size

1 Press [MENU/▼] on the product.

2 Press [▼] to move to **Image Size** and press [ ] on the product.

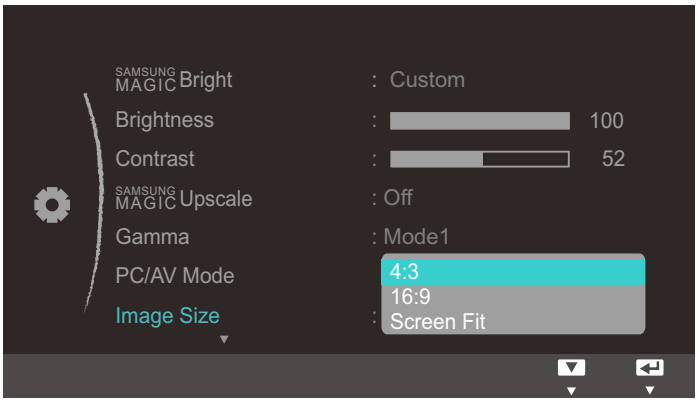
The following screen will appear.

In **PC** mode



- **Auto**: Display the picture according to the aspect ratio of the input source.
- **Wide**: Display the picture in full screen regardless of the aspect ratio of the input source.

In **AV** mode



- **4:3**: Display the picture with an aspect ratio of 4:3. Suitable for videos and standard broadcasts.
- **16:9**: Display the picture with an aspect ratio of 16:9.
- **Screen Fit**: Display the picture with the original aspect ratio without cutting off.

Changing the screen size is available when the following conditions are satisfied.

- The input signal is 480p, 576p, 720p, or 1080p and monitor can display normally (Not every model can support all of these signals).
- This can only be set when the external input is connected through DVI and **PC/AV Mode** is set to **AV**.

3 Press [▼] to move to the option you want and press [⏎/⏻].

4 The selected option will be applied.

4 Using the OSD Menu on S24C230JL, S24C230JY and S27C230J

4.8 Language

Set the menu language.

- A change to the language setting will only be applied to the onscreen menu display.
- It will not be applied to other functions on your PC.

4.8.1 Configuring Language

1 Press [MENU/▼] on the product.

2 Press [▼] to move to **Language** and press [⏻/⏻] on the product.

The following screen will appear.

3 Press [▼] to move to the language you want and press [⏻/⏻].

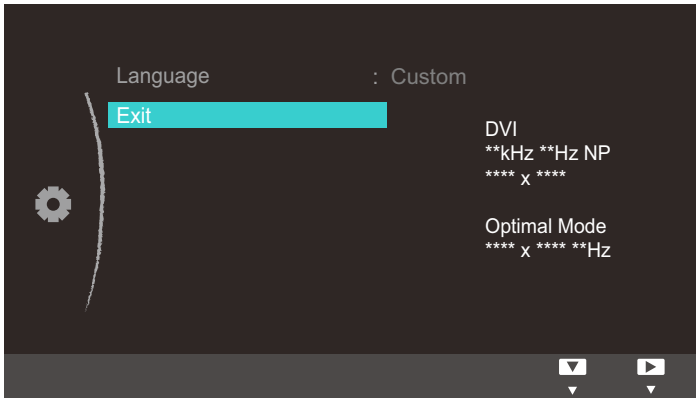
4 The selected option will be applied.

4 Using the OSD Menu on S24C230JL, S24C230JY and S27C230J

4.9 Exit

You can exit the OSD.

View the current input source, frequency and resolution.



4.9.1 Viewing the Product Information

1 Press [MENU/▼] on the product.

2 Press [▼] to move to **Exit**.

The following screen will appear.

The displayed menu items may vary depending on the model.

4.9.2 Exiting from the OSD Menu

1 Press [MENU/▼] on the product.

2 Press [▼] to move to **Exit** and press [⏎/⏻] on the product.

3 This will close the OSD menu.

5 Troubleshooting Guide

5.1 Requirements Before Contacting Samsung Customer Service Center

5.1.1 Testing the Product

Before calling Samsung Customer Service Center, test your product as follows. If the problem persists, contact Samsung Customer Service Center.

Check if your product is operating normally by using the product test function.

If the screen is turned off and the power indicator blinks even though the product is properly connected to a PC, perform a self-diagnosis test.

1. Power off both the PC and product.
2. Disconnect the cables from the product.
3. Power on the product.
4. If the message **Check Signal Cable** appears, the product is working normally.

   If the screen remains blank, check the PC system, video controller and cable.

5.1.2 Checking the Resolution and Frequency

For a mode that exceeds the supported resolution (refer to "6.3 Standard Signal Mode Table"), the message **Not Optimum Mode** will appear for a short time.

5.1.3 Check the following.

Installation issue (PC mode)	
The screen keeps switching on and off.	Check the cable connection between the product and PC, and ensure the connectors are locked. (Refer to "2.3 Connecting and Using a PC")

Screen issue	
The power LED is off. The screen will not switch on.	Check that the power cable is connected properly. (Refer to "2.3 Connecting and Using a PC")
The message **Check Signal Cable** appears.	Check that the cable is properly connected to the product. (Refer to "2.3 Connecting and Using a PC")
	Check that the device connected to the product is powered on.

Screen issue	
Not Optimum Mode is displayed.	This message appears when the signal from the graphics card exceeds the maximum resolution or frequency for the product.
	Change the maximum resolution and frequency to suit the product performance, referring to Standard Signal Mode Table (page 65).
The images on the screen look distorted.	Check the cable connection to the product (Refer to "2.3 Connecting and Using a PC")
The screen is not clear. The screen is blurry.	Remove any accessories (video extension cable, etc.) and try again.
	Set the resolution and frequency to the recommended level. (Refer to "6.1 General")
The screen appears unstable and shaky.	Check that the resolution and frequency for the PC are within the range of resolution and frequency compatible with the product. Next, if required, change the settings, referring to Standard Signal Mode Table (page 65) in this manual and the **Exit** menu on the product.
There are shadows or ghost images left on the screen.	
The screen is too bright. The screen is too dark.	Adjust **Brightness** (page 37, page 48) and **Contrast** (page 38, page 49).
There is no image on the screen and the power LED blinks every 0.5 to 1 second.	The product is operating in power-saving mode.
	Press any key on the keyboard or move the mouse to return to normal operating mode.

Source device issue	
A beeping sound is heard when my PC is booting.	If a beeping sound is heard when your PC is booting, have your PC serviced.

5.2 Q & A

Question	Answer
How can I change the frequency?	Set the frequency on your graphics card. • Windows XP: Go to **Control Panel** → **Appearance and Themes** → **Display** → **Settings** → **Advanced** → **Monitor**, and adjust **Refresh rate** under **Monitor settings**. • Windows ME/2000: Go to **Control Panel** → **Display** → **Settings** → **Advanced** → **Monitor**, and adjust **Refresh rate** under **Monitor settings**. • Windows Vista: Go to **Control Panel** → **Appearance and Personalization** → **Personalization** → **Display Settings** → **Advanced Settings** → **Monitor**, and adjust **Refresh rate** under **Monitor settings**. • Windows 7: Go to **Control Panel** → **Appearance and Personalization** → **Display** → **Screen Resolution** → **Advanced settings** → **Monitor**, and adjust **Refresh rate** under **Monitor settings**. • Windows 8: Go to **Settings** → **Control Panel** → **Appearance and Personalization** → **Display** → **Screen Resolution** → **Advanced settings** → **Monitor**, and adjust **Refresh rate** under **Monitor settings**.

Question	Answer
How can I change the resolution?	• Windows XP: Go to **Control Panel** → **Appearance and Themes** → **Display** → **Settings**, and adjust the resolution. • Windows ME/2000: Go to **Control Panel** → **Display** → **Settings**, and adjust the resolution. • Windows Vista: Go to **Control Panel** → **Appearance and Personalization** → **Personalize** → **Display Settings**, and adjust the resolution. • Windows 7: Go to **Control Panel** → **Appearance and Personalization** → **Display** → **Adjust Resolution**, and adjust the resolution. • Windows 8: Go to **Settings** → **Control Panel** → **Appearance and Personalization** → **Display** → **Adjust Resolution**, and adjust the resolution.
How do I set power-saving mode?	• Windows XP: Set power-saving mode in **Control Panel** → **Appearance and Themes** → **Display** → **Screen Saver Settings** or BIOS SETUP on the PC. • Windows ME/2000: Set power-saving mode in **Control Panel** → **Display** → **Screen Saver Settings** or BIOS SETUP on the PC. • Windows Vista: Set power-saving mode in **Control Panel** → **Appearance and Personalization** → **Personalize** → **Screen Saver Settings** or BIOS SETUP on the PC. • Windows 7: Set power-saving mode in **Control Panel** → **Appearance and Personalization** → **Personalize** → **Screen Saver Settings** or BIOS SETUP on the PC. • Windows 8: Set power-saving mode in **Settings** → **Control Panel** → **Appearance and Personalization** → **Personalize** → **Screen Saver Settings** or BIOS SETUP on the PC.

Refer to the user manual for your PC or graphics card for further instructions on adjustment.

6.1 General

Model Name		S24C230BL	S24C230JL	S24C230JY
Panel	Size	59 cm		
	Display area (H x V)	521.28 mm x 293.22 mm		
	Pixel Pitch (H x V)	0.2715 x 0.2715 mm		
Maximum Pixel Clock		148MHz (Analog, Digital)	148 MHz (Digital)	
Signal connectors		15pin-to-15pin D-sub cable, Detachable DVI-D to DVI-D connector, Detachable	DVI-D to DVI-D connector, Detachable	
Input Signal, Terminated		RGB Analog, DVI(Digital Visual Interface) Compliant Digital RGB 0.7 Vp-p ± 5% Separate H/V sync, Composite, SOG TTL level (V high ≥ 2.0V, V low ≤ 0.8V)	DVI(Digital Visual Interface) Compliant Digital RGB 0.7 Vp-p ± 5% Separate H/V sync, Composite, SOG TTL level (V high ≥ 2.0V, V low ≤ 0.8V)	
Dimensions (WxHxD) / Weight	Without Stand	558.5 × 361.2 × 49.4 mm / 3.4 Kg		
	With Stand	558.5 × 432.1 × 242.0 mm / 3.95 Kg		

Model Name		S27C230B	S27C230J
Panel	Size	68 cm	
	Display area	597.6 mm (H) x 336.15 mm (V)	
	Pixel Pitch	0.31125 mm (H) x 0.31125 mm (V)	
Maximum Pixel Clock		148MHz (Analog, Digital)	148 MHz (Digital)
Signal connectors		15pin-to-15pin D-sub cable, Detachable DVI-D to DVI-D connector, Detachable	DVI-D to DVI-D connector, Detachable

Model Name		S27C230B	S27C230J
Input Signal, Terminated		RGB Analog, DVI(Digital Visual Interface) Compliant Digital RGB 0.7 Vp-p ± 5% Separate H/V sync, Composite, SOG TTL level (V high ≥ 2.0V, V low ≤ 0.8V)	DVI(Digital Visual Interface) Compliant Digital RGB 0.7 Vp-p ± 5% Separate H/V sync, Composite, SOG TTL level (V high ≥ 2.0V, V low ≤ 0.8V)
Dimensions (WxHxD) / Weight	Without Stand	644.8 × 414.2 × 50.7 mm / 4.05 Kg	644.8 × 414.2 × 50.7 mm / 4.15 Kg
	With Stand	644.8 × 485.2 × 242.0 mm / 4.6 kg	644.8 × 485.2 × 242.0 mm / 4.7 kg

S24C230BL / S24C230JL / S24C230JY / S27C230B / S27C230J		
Synchronization	Horizontal Frequency	30 ~ 81 kHz
	Vertical Frequency	56 ~ 75 Hz
Display Color		16.7 M
Resolution	Optimum Resolution	1920 x 1080 @ 60 Hz
	Maximum Resolution	1920 x 1080 @ 60 Hz
Tilt		-1.0°(±2.0°) ~ 20.0°(±2.0°)
Power Supply		This product uses 100 to 240V. Refer to the label at the back of the product as the standard voltage can vary in different countries.
Environmental considerations	Operating	Temperature : 10°C ~ 40°C(50°F ~ 104°F) Humidity : 10 % – 80 %, non-condensing
	Storage	Temperature : -20°C ~ 45°C(-4°F ~ 113°F) Humidity : 5 % – 95 %, non-condensing

S24C230BL / S24C230JL / S24C230JY / S27C230B / S27C230J	
Plug-and-Play	This monitor can be installed and used with any Plug-and-Play compatible systems. Two-way data exchange between the monitor and PC system optimizes the monitor settings. Monitor installation takes place automatically. However, you can customize the installation settings if desired.
Panel Dots (Pixels)	Due to the nature of the manufacturing of this product, approximately 1 pixel per million (1ppm) may be brighter or darker on the LCD panel. This does not affect product performance.

The above specifications are subject to change without notice to improve quality.

This device is a Class B digital apparatus.

6.2 PowerSaver

The power-saving function of this product reduces power consumption by switching off the screen and changing the color of the power LED if the product is not used for a specified period of time. The power is not turned off in power-saving mode. To switch the screen back on, press any key on the keyboard or move the mouse. Power-saving mode functions only when the product is connected to a PC that has a power-saving function.

PowerSaver		Energy Star Power Consumption	Power saving mode	Power off (Power button)
Power Indicator		On	Blinking	Off
Power Consumption	S24C230BL S24C230JL	18 watts	Typical 0.3 W	Typical 0.3 W
	S24C230JY S27C230B S27C230J	22 watts	Typical 0.3 W	Typical 0.3 W

- The power consumption level can vary in different operating conditions or when settings are changed. (S**C230 Model Power saving mode / Power off (Power button) : Max 0.45 watts.)
- ENERGY STAR® is a US registered mark of the United States Environmental Protection Agency.

  Energy Star power is measured with the test method in the current Energy Star® Standard.
- To reduce the power consumption to 0 watts, turn off the power switch on the back of the product or disconnect the power cable. Be sure to disconnect the power cable when you will not be using the product for an extended period of time. To reduce the power consumption to 0 watts when the power switch is not available, disconnect the power cable.

6.3 Standard Signal Mode Table

- This product can be set to only one resolution for each screen size to obtain the optimum picture quality due to the nature of the panel. Therefore, a resolution other than the specified resolution may degrade the picture quality. To avoid this, it is recommended that you select the optimum resolution specified for the screen size of your product.
- Check the frequency when you exchange a CDT monitor (connected to a PC) for an LCD monitor. If the LCD monitor does not support 85Hz, change the vertical frequency to 60Hz using the CDT monitor before you exchange it with the LCD monitor.

If a signal that belongs to the following standard signal modes is transmitted from your PC, the screen will automatically be adjusted. If the signal transmitted from the PC does not belong to the standard signal modes, the screen may be blank even though the power LED turns on. In such a case, change the settings according to the following table by referring to the graphics card user manual.

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
IBM, 720 x 400	31.469	70.087	28.322	-/+
MAC, 640 x 480	35.000	66.667	30.240	-/-
MAC, 832 x 624	49.726	74.551	57.284	-/-
MAC, 1152 x 870	68.681	75.062	100.000	-/-
VESA, 640 x 480	31.469	59.940	25.175	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/+
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1152 x 864	67.500	75.000	108.000	+/+
VESA, 1280 x 720	45.000	60.000	74.250	+/+
VESA, 1280 x 800	49.702	59.810	83.500	-/+
VESA, 1280 x 1024	63.981	60.020	108.000	+/+
VESA, 1280 x 1024	79.976	75.025	135.000	+/+

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
VESA, 1440 x 900	55.935	59.887	106.500	-/+
VESA, 1600 x 900RB	60.000	60.000	108.000	+/+
VESA, 1680 x 1050	65.290	59.954	146.250	-/+
VESA, 1920 x 1080	67.500	60.000	148.500	+/+

- Horizontal Frequency

  The time required to scan a single line from the left to the right side of the screen is called a horizontal cycle. The reciprocal number of a horizontal cycle is called horizontal frequency. Horizontal frequency is measured in kHz.

- Vertical Frequency

  Repeating the same picture dozens of times per second allows you to view natural pictures. The repeat frequency is called "vertical frequency" or "refresh rate" and is indicated in Hz.

Contact SAMSUNG WORLD WIDE

If you have any questions or comments relating to Samsung products, please contact the SAMSUNG customer care center.

NORTH AMERICA		
U.S.A	1-800-SAMSUNG (726-7864)	http://www.samsung.com
CANADA	1-800-SAMSUNG (726-7864)	http://www.samsung.com/ca (English) http://www.samsung.com/ca_fr (French)
MEXICO	01-800-SAMSUNG (726-7864)	http://www.samsung.com

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MOLDOVA	0-800-614-40	http://www.samsung.com
MONGOLIA	+7-800-555-55-55	http://www.samsung.com
RUSSIA	8-800-555-55-55	http://www.samsung.com
TADJIKISTAN	8-10-800-500-55-500	http://www.samsung.com
UKRAINE	0-800-502-000	http://www.samsung.com/ua (Ukrainian) http://www.samsung.com/ua_ru (Russian)
UZBEKISTAN	8-10-800-500-55-500	http://www.samsung.com

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JORDAN	800-22273 065777444	http://www.samsung.com/Levant (English)

MENA		
KUWAIT	183-2255 (183-CALL)	http://www.samsung.com/ae (English) http://www.samsung.com/ae_ar (Arabic)
MOROCCO	080 100 2255	http://www.samsung.com
OMAN	800-SAMSUNG (726-7864)	http://www.samsung.com/ae (English) http://www.samsung.com/ae_ar (Arabic)
QATAR	800-2255 (800-CALL)	http://www.samsung.com/ae (English) http://www.samsung.com/ae_ar (Arabic)
SAUDI ARABIA	9200-21230	http://www.samsung.com/sa (Arabic)
SYRIA	18252273	http://www.samsung.com/Levant (English)
TURKEY	444 77 11	http://www.samsung.com
U.A.E	800-SAMSUNG (726-7864)	http://www.samsung.com

AFRICA		
ANGOLA	91-726-7864	http://www.samsung.com
BOTSWANA	0800-726-000	http://www.samsung.com
CAMEROON	7095- 0077	http://www.samsung.com
COTE D' IVOIRE	8000 0077	http://www.samsung.com
GHANA	0800-10077 0302-200077	http://www.samsung.com
KENYA	0800 545 545	http://www.samsung.com
NAMIBIA	8197267864	http://www.samsung.com
NIGERIA	0800-726-7864	http://www.samsung.com
SENEGAL	800-00-0077	http://www.samsung.com
SOUTH AFRICA	0860-SAMSUNG (726-7864)	http://www.samsung.com
TANZANIA	0685 88 99 00	http://www.samsung.com
UGANDA	0800 300 300	http://www.samsung.com
ZAMBIA	211350370	http://www.samsung.com

Responsibility for the Pay Service (Cost to Customers)

When the service is requested, in spite of in warranty, we may charge you for a visit from a service technician in the following cases.

Not a product defect

Cleaning of the product, Adjustment, Explanation, Re-installation and etc.

- If a service technician gives instructions on how to use product or simply adjusts options without disassembling product.
- If a defect is caused by external environmental factors. (Internet, Antenna, Wired Signal, etc.)
- If a product is reinstalled or devices are connected additionally after installing the purchased product for the first time.
- If a product is reinstalled to move to a different spot or to move to a different house.
- If customer requests instructions on how to use because of another company's product.
- If customer requests instructions on how to use the network or another company's program.
- If customer requests software installation and setup for the product.
- If a service technician removes/cleans dusts or foreign materials inside of the product.
- If customer requests an installation additionally after purchasing a product through home-shopping or online.

A Product damage caused by customer's fault

Product damage caused by customer's mishandling or wrong repair

If a product damage is caused by;

- external impact or drop.
- use of supplies or separately sold product unspecified by Samsung.
- repair from a person besides an engineer of outsourcing service company or partner of Samsung Electronics Co., Ltd.
- remodeling or repairing the product by customer.
- using it with incorrect voltage or non-authorised electrical connections.
- not following the "cautions" in User Manual.

Others

- If product fails by natural disaster. (lightning, fire, earthquake, flood damage, etc)
- If consumable components are all used up. (Battery, Toner, Fluorescent lights, Head, Vibrator, Lamp, Filter, Ribbon, etc.)

If customer requests a service in case the product has no defect, service fee may be charged. So please read User Manual first.

Correct Disposal

Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

(India Only)

For more information on safe disposal and recycling visit our website www.samsung.com/in or contact our Helpline numbers - 18002668282, 180030008282.

Terminology

OSD (On Screen Display)

On screen display (OSD) allows you to customize on-screen settings to optimize the picture quality as required. You can change the screen brightness, tint, size and many other settings using menus displayed on the screen.

Gamma

The Gamma menu adjusts the grey scale that represents middle tones on the screen. Adjusting the brightness brightens the whole screen, but adjusting Gamma only brightens the medium brightness.

Grey scale

Scale refers to levels of color intensity that show variations of color change from darker areas to brighter areas on the screen. Changes to the screen brightness are expressed with black and white variation, and grey scale refers to the medium area between black and white. Changing the grey scale through Gamma adjustment will change the medium brightness on the screen.

Scanning rate

Scanning rate, or refresh rate, refers to the frequency of screen refreshes. Screen data is transmitted as it refreshes to display an image, although the refreshing is invisible to the naked eye. The number of screen refreshes is called scanning rate and is measured in Hz. A scanning rate of 60Hz means that the screen refreshes 60 times per second. The screen scanning rate depends on the performance of the graphics cards in your PC and monitor.

Horizontal Frequency

Characters or images displayed on the monitor screen consist of numerous dots (pixels). Pixels are transmitted in horizontal lines, which are then arranged vertically to create an image. The horizontal frequency is measured in kHz and represents how many times horizontal lines per second are transmitted and displayed on the monitor screen. A horizontal frequency of 85 means that the horizontal lines that make up an image are transmitted 85000 times per second. The horizontal frequency is indicated in 85kHz.

Vertical Frequency

One image is made of numerous horizontal lines. The vertical frequency is measured in Hz and represents how many images can be created per second by those horizontal lines. A vertical frequency of 60 means that an image is transmitted 60 times per second. The vertical frequency is also called "refresh rate" and affects screen flicker.

Resolution

Resolution is the number of horizontal pixels and vertical pixels that form a screen. It represents the level of display detail.

A higher resolution displays a greater amount of information on the screen and is suitable for performing multiple tasks at the same time.

E.g. A resolution of 1920 x 1080 consists of 1920 horizontal pixels (horizontal resolution) and 1080 vertical lines (vertical resolution).

Plug & Play

The Plug & Play feature allows the automatic exchange of information between a monitor and PC to produce an optimum display environment.

The monitor uses VESA DDC (international standard) to execute Plug & Play.

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